Amendments to the Specification

Please replace the following paragraphs:

[0003] FIG. 1 illustrates a liquid crystal panel for a conventional ~~related art~~ transflective liquid crystal display device. The conventional ~~related art~~ transflective liquid crystal display device 11 has an upper substrate 15 that includes a color filter 18 a transparent common electrode 13 and a lower substrate 21 that includes a pixel region "P", a pixel electrode 19, thin film transistor and an array of gate lines 25 and data lines 27. The color filter 18 includes a black matrix 16 and sub-color filters R, G and B. The pixel electrode 19 has a transmission portion "A" and a reflection portion "C". Liquid crystal 23 is interposed between the upper substrate 15 and the lower substrate 21. The lower substrate 21 is also referred to as an array substrate with thin film transistors "T", switching elements, arranged in a matrix on the array substrate 21. A plurality of horizontal gate lines 25 and a plurality of vertical data lines 27 cross each other defining the pixel region "P". If the transparent pixel electrode 19 and the transmission portion "A" are omitted from the transflective liquid crystal display device, it becomes a reflective liquid crystal display device.

[0004] FIG. 2 is a plan view illustrating a partial array substrate for a conventional ~~related art~~ reflective liquid crystal display device. As shown in the

figure, a plurality of gate lines 25 and a plurality of data lines 27 cross each other defining a pixel region "P". A thin film transistor "T" is formed at a crossing portion of the gate line 25 and the data line 27. The thin film transistor "T" usually includes a gate electrode 32, a source electrode 33, a drain electrode 35 and an active layer 34. A pixel electrode 19 is formed in the pixel region "P" and the thin film transistor "T" connected to the drain electrode 35 drives the liquid crystal 23 of FIG. 1. A reflective electrode, which is formed of opaque conductive metal having a high reflexability, is substituted for the pixel electrode 19 in the reflective liquid crystal display device. The opaque conductive metal is selected from a group consisting of aluminum (Al) and aluminum alloys (AlNd, for example), for example.

[0006] FIG. 3 is a cross-sectional view taken along III-III of FIG. 2 according to the conventional ~~related art~~. As shown in the figure, a gate electrode 32 and a gate line 25 of FIG. 2 are formed on a substrate 21. A gate insulating layer 41 is formed on the substrate 21 and on the gate electrode 32. An active layer 34 is formed on the gate insulating layer 41 and partially overlapped with a source electrode 33 and a drain electrode 35. The source electrode 33, the drain electrode 35 and the data line 27 are formed on the active layer 34. A thin film transistor includes the gate electrode 32, the source electrode 33, the drain electrode 35 and the active layer 34. A passivation layer

43 made of insulating material is formed on the thin film transistor. The passivation layer 43 is subsequently patterned to form a drain contact hole 45 exposing a part of the drain electrode 35. A reflective electrode 19 contacts the drain electrode 35 through the drain contact hole 45. The material for the reflective electrode 19 is selected from a group including aluminum (Al) and aluminum alloy (AlNd, for example), etc.

[0007] FIG. 5 is a cross-sectional view taken along line V-V of FIG. 4 according to the conventional ~~related art~~. A thin film transistor "T" including a gate electrode 32, a source electrode 33, a drain electrode 35 and an active layer 34 is formed and a first passivation layer 43 is formed on the thin film transistor "T". The first passivation layer 43 is formed by depositing a transparent organic insulating material such as benzocyclobutene (BCB) and acrylic resin. A drain contact hole 45 that exposes a part of the drain electrode 35 is formed and a etching hole 53 is formed by etching the first passivation layer 43 corresponding to the transmission hole 53 in the pixel region "P". A reflective electrode 19a that contacts the drain electrode 35 through the drain contact hole 45 is formed in the pixel region "P". The reflective electrode 19a is formed of aluminum (Al) and aluminum alloys (AlNd, for example), etc. A second passivation layer 47 is formed on the reflective electrode 19a and patterned to expose the reflective electrode 19a corresponding to the drain

contact hole 45. The second passivation layer 47 is formed of insulating material such as silicon oxide (SiO_2) or silicon nitride (SiN_x), for example. A transparent pixel electrode 19b that contacts the exposed reflective electrode 19a through the patterned second passivation layer 47 is formed on the second passivation layer 47.

[0008] Several masks for patterning array elements of the array substrate are used in the manufacturing of the conventional ~~related art~~ reflective and transflective liquid crystal display device. An align key for accurate aligning of the mask and the substrate is formed on the corner of the substrate simultaneously with the gate line or the data line forming process. The shape of the align key has unevenness. Accordingly, a detector aligns the mask and the substrate by irradiating light onto the uneven surface of the align key and sensing the light reflected from the surface of the align key.

[0009] FIG. 6 is a plan view illustrating a partial array substrate having a coplanar type polysilicon thin film transistor for a conventional ~~related art~~ transflective liquid crystal display device. A gate line 71 and a data line 84 cross each other defining a pixel region "P" and a thin film transistor "T" is formed at a crossing portion of the gate line 71 and the data line 84. The thin film transistor "T" is a polysilicon thin film transistor that includes a polysilicon

active layer and has a coplanar structure in which a gate electrode 70 is formed under a source electrode 80 and a drain electrode 82. A gate pad 74 and a data pad 86, which receive an external signal, are formed respectively at one end of the gate line 71 and the data line 84. The gate pad 74 and the data pad 86 respectively contact a gate pad terminal 94 and a data pad terminal 96 that are formed of transparent conductive material. The thin film transistor "T" includes the gate electrode 70, the source electrode 80, the drain electrode 82 and an active layer 66. The active layer 66 has an active layer expanded portion 67 in the pixel region "P". A storage line 72 is formed parallel to the gate line 71 with a same material as that of the gate line 71 and has a storage line expanded potion 73 in the pixel region "P". The pixel electrode 63 contacts the drain electrode 82. A storage capacitor portion "C" and a reflection portion "E" are formed in the pixel region "P". A reflector 102 is formed on the storage capacitor portion "C". The rest potion of the pixel region "P" except the reflector 102 is a transmission portion "F".

[0017] Conventional ~~related art~~ reflective or transflective liquid crystal display devices have some problems described as follows. First, because a reflective electrode is formed on an organic insulating layer such as benzocyclobutene (BCB) and the contact property of the reflective electrode and the benzocyclobutene (BCB) layer is not good, the reflective electrode may not

be stably deposited on the organic insulating layer. This lacks of stability lowers electric properties of a liquid crystal panel. Second, when a sputtering process is used for forming the reflective electrode on the benzocyclobutene (BCB), accelerated electrons collide into the surface of the benzocyclobutene (BCB) and separate the benzocyclobutene (BCB) particles from the surface, which produces benzocyclobutene (BCB) particles in a deposition chamber. The benzocyclobutene (BCB) particles in the deposition chamber contaminate the deposition chamber. Lastly, an align key may not be detected by a detecting apparatus if the benzocyclobutene (BCB) is deposited on the substrate and covers the align key. Accordingly, alignment error of a mask and the substrate may be occurred during a light exposing process for patterning the reflective electrode.

[0035] FIG. 1 is an exploded perspective view illustrating a liquid crystal panel for a conventional ~~related art~~ transflective liquid crystal display device;

[0036] FIG. 2 is a plan view illustrating a partial array substrate for a conventional ~~related art~~ reflective liquid crystal display device;

[0037] FIG. 3 is a cross-sectional view taken along line III-III of FIG. 2 according to the conventional ~~related art~~;

[0038] FIG. 4 is a plan view illustrating a partial array substrate having an inverted stagger type thin film transistor for a conventional ~~related art~~ transflective liquid crystal display device;

[0039] FIG. 5 is a cross-sectional view taken along line V-V of FIG. 4 according to the conventional ~~related art~~;

[0040] FIG. 6 is a plan view illustrating a partial array substrate having a coplanar type polysilicon thin film transistor for a conventional ~~related art~~ transflective liquid crystal display device;

[0041] FIGs. 7A to 7F are cross-sectional views taken along lines IV-IV, V-V, VI-VI of FIG. 6 illustrating a fabricating sequence of an array substrate according to the conventional ~~related art~~;

[0069] As described above, an array substrate for reflective and transflective liquid crystal display devices includes a reflective electrode that avoids being formed directly on an organic insulating layer such as benzocyclobutene (BCB) by exchanging a forming order of the organic insulating layer and an inorganic insulating layer such as silicon nitride (SiNx)

or by introducing a barrier layer between the organic insulating layer and the reflective electrode. Accordingly, the array substrate with reflective electrode formed in this matter avoids the problems of the conventional ~~related art~~ discussed above.